CLAIMS

1. A method for manufacturing a nanostructure (150) in-situ at at least one predetermined point (A, B) on a supporting carrier (110), which method is characterized in that it comprises the following steps:
- choosing a suitable material for a substrate to be comprised in the carrier (150), and creating said substrate,
- preparing a template (115) on the substrate, wherein the template covers said predetermined point (A, B), and giving said template a proper shape according to the desired final shape of the nanostructure,
- causing a film (140) of nanosource material with desired thickness, width and length to be formed on the template (115),
- causing at least part of the film (140) of nanosource material to restructure from a part of the template, thus forming the desired nanostructure (150) at the predetermined point (150),
said restructuring being in the form of a reassembling on the atomic scale of the nanosource material, resulting in qualitatively new properties relative to the properties of the nanosource material prior to the restructuring, said new properties being manifested in an altered, pre-defined response to external fields or forces.
2. The method of claim 1, according to which the template (115) comprises a first (120) and a second (130) area, which have different properties with respect to their interaction with the nanosource material.

3. The method of claim 2, wherein the different properties of the two areas with respect to their interaction with the nanosource material is that one area (120) is given stronger adhesive properties than the other (130).

4. The method of claim 3, according to which the area (120) of the template that has the stronger adhesive properties with respect to the nanosource material covers the at least one predetermined point (A, B) on the substrate (110), thus bonding the nanostructure to the carrier at that point.

5. The method of any of the previous claims, according to which the restructuring is carried out by providing additional energy to the film (140) of nanosource material.

6. The method of claim 5, according to which at least part of the additional energy is provided by means of a laser beam, ion beam or electron beam which illuminates at least part of the film of nanosource material.

7. The method of any of claims 1-4, according to which the restructuring is carried out by means of doping at least part of the material of the film of nanosource material.

8. The method of any of claims 5, 6 or 7, according to which the additional energy or doping is provided to a section of that part of the nanosource material which has been deposited on the area (130) of the template whose material has the weaker adhesive properties.

9. The method of any of the previous claims, in which the restructuring of the nanosource material is in the form of exfoliation.

10. The method of any of the previous claims, according to which the nanostructure which is formed is a nanotube (150) which connects two predetermined points (A, B) on the carrier (110).

11. The method according to any of the previous claims, according to which at least one of the two (120, 130) areas of the template (115) is rectangular.

12. The method of any of the previous claims, according to which the film (140) of nanosource material which is caused to be deposited on the template is a film of graphene.

13. A method for manufacturing an electronics device (400), said device comprising at least a carrier (110) and, arranged on the carrier, at least one component (150) for conducting electrical current between two predetermined points (A, B) on the carrier, said method comprising the steps of choosing a suitable material for a substrate to be comprised in the carrier, and creating the substrate, the method being characterized in that it comprises the following steps:

- arranging on the substrate at least one template area (115), so that the two predetermined points (A, B) on the carrier are in connection with a template area,
- arranging a contact point (120') for external devices to at least one of the two predetermined points,
- causing a film (140) of nanosource material with desired thickness, width and length to be deposited on at least one template area,
- causing at least one of said films of nanosource material to at least partially exfoliate from its template and to form a nanotube (150) which connects the two predetermined points on the carrier,

wherein said component for conducting electrical current is formed by said nanotube (150).

14. The method of claim 13, according to which the at least one contact point (120') coincides with one of said two predetermined points (A, B).

15. The method of claim 13 or 14, according to which the contact point (120') is prepared before the nanosource material is caused to exfoliate from its template.

16. The method of claim 13 or 14, according to which the contact point (120') is prepared after the nanosource material is caused to exfoliate from its template.

17. The method of any of claims 13-16, according to which to the at least one of the templates comprises two areas (120, 130) which have different properties with respect to their interaction with the nanosource material.

18. The method of claim 17, in which the different properties of the areas with respect to their interaction with the nanosource material are brought about by letting one area (120, 120') have stronger adhesive properties than the other (130) with respect to the nanosource material.

19. The method of any of claims 13-18, according to which a plurality of template areas are prepared on the substrate, said template areas being arranged so that a nanotube which is formed by a film of nanotube structure material formed on and subsequently exfoliated from one of these templates will interconnect with another nanotube which in a similar manner is exfoliated from a neighbouring template, thus forming one single continuous nanotube.

20. The method of any of claims 13-19, according to which template areas (120, 120') that has/have the stronger adhesive properties with respect to the nanosource material (140) connect the two predetermined points (A, B) on the substrate.

21. The method of any of claims 13-20, according to which the exfoliation is carried out by providing additional energy to the film of nanosource material.

22. The method of claim 21, according to which at least part of the additional energy is provided by means of a laser beam, ion beam or electron beam, which illuminates at least part of the film of nanosource material.

23. The method of any of claims 13-20, according to which the exfoliation is done by means of doping at least part of the material of the film of nanosource material.

24. The method of any of claims 21, 22 or 23, according to which the additional energy or doping is provided to a section of that part of the nanosource material which has been deposited on the area of the template which has the weaker adhesive properties.

25. The method of any of claims 13-24, according to which the films of nanotube source materials which are deposited on at least one of the templates is a film which will form a nanotube with different electrical properties compared to the electrical properties of a nanotube which will be formed by a film which is deposited on at least one of the other templates, thus giving the resulting total nanotube device semiconductor properties.

26. The method of any of claims 13-25, according to which the film of nanosource material which is caused to be deposited on the templates is a film of graphene.

27. The method of claim 26, according to which the tubes are given different electrical properties by virtue of the tubes having different chirality.

28 The method according to any of claims 13-27, according to which at least one of the two areas of the template is rectangular.

29. A nanostructure device (200), comprising a carrier (110) and a nanostructure (150) positioned on said carrier, said nanostructure extending along a predetermined path (A, B) on the carrier, characterized in that the device additionally comprises an aligning structure, which aligns the nanostructure along said predetermined path on the carrier (110), the device (200) additionally comprising a layer (120) of material positioned on the carrier, said material being a bonding material for attaching the nanostructure to the carrier, with the structure of the bonding material also serving as the aligning structure for the nanostructure.

30. The device of claim 29, in which the nanostructure is a nanotube.

31. The device of any of claims 29-30, in which the source material for the nanostructure is graphene.

32. An electronics device (400), said device comprising at least a carrier (110) and, arranged on the carrier, at least one component (150) for conducting electrical current between two predetermined points (A, B) on the carrier, said device being characterized in that it comprises a nanotube (150) as the at least one component for conducting electrical current between the two predetermined points, wherein the nanotube consists of at least two different sections with respect to the longitudinal extension of the nanotube, said two sections having different properties for conducting electrical current, with the device additionally comprising an aligning structure for aligning said two sections of the a nanotube between said two points (A, B) on the carrier (110).

33. The device (400) according to claim 32, additionally comprising a layer (120) of material positioned on the carrier, said material being a bonding material for attaching the nanotube to the carrier.

34. The device of claim 33, according to which the bonding material also serves as the aligning structure of the nanotube.

35. The device of any of claims 32-34, in which the material of the nanotube is graphene.